

Sub 009 → [13. The method of claim 7 wherein the amplified target polynucleotide is contacted with a label.]

14. The method of claim 7 wherein the amplified target polynucleotide is contacted with a labeled probe.]

15. The method of claim 7 wherein the amplified target polynucleotide is contacted with a second support which binds to the amplified target polynucleotide.

Sub 008 → [16. The method of claim 15 wherein the amplified target polynucleotide is contacted with a labeled probe.]

17. The method of claim 16 wherein the target polynucleotide is amplified with a polymerase.

E4 → 18. The method of claim 17 wherein the target polynucleotide is a DNA polynucleotide and the polymerase is a DNA polymerase.

Sub 007 → [19. A method for detecting a target polynucleotide contained in a sample comprising the steps of:

- (a) contacting the sample with a first support which binds to the target polynucleotide;
- (b) substantially separating the first support and bound target polynucleotide from the sample;
- (c) amplifying the sample with a DNA polymerase;
- (d) contacting the amplified target polynucleotide with a second support which binds to the amplified target polynucleotide and also with a labeled probe which binds to the amplified target polynucleotide; and
- (e) detecting the presence of the amplified target polynucleotide.

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[20. A kit for detecting a target polynucleotide contained in a sample comprising:

- (a) means for substantially separating the target polynucleotide from the sample;
- (b) means for amplifying the target polynucleotide;
- (c) means for binding the amplified target polynucleotide to a solid support; and
- (d) means for labeling the amplified target polynucleotide.]

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[21. The kit of claim 20 wherein:

- (a) the means for substantially separating the target polynucleotide from the sample include a first support;
- (b) the means for amplifying the target polynucleotide include a polymerase;
- (c) the means for binding that amplified target polynucleotide to a solid support include a capture probe which binds to the solid support and to the amplified target polynucleotide; and
- (d) a detector probe for labeling the amplified target polynucleotide.]

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[22. The kit of claim 21 further comprising a capture probe which binds to the first support and to the target.]

[23. The kit of claim 22 wherein the polymerase is a DNA polymerase and the detector probe is labeled.]

[24. A kit for amplifying a target polynucleotide contained in a sample comprising:

- (a) means for substantially separating the target polynucleotide from the sample and
- (b) means for amplifying the target polynucleotide.]

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[25. The kit of claim 24 wherein:

- (a) the means for substantially separating the target polynucleotide from the sample includes a support which binds to the target polynucleotide and
- (b) the means for amplifying the target polynucleotide includes a polymerase.]

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[26. The kit of claim 25 wherein:

- (a) the polymerase is a DNA polymerase; and
- (b) the means for substantially separating the target polynucleotide from the sample includes a probe which binds to the target polynucleotide and the support.]

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~~27. A method for amplifying a target polynucleotide contained in a sample medium comprising the steps of:~~

- (a) contacting the sample medium with reagent comprising a first nucleic acid probe which binds to the target to form a probe-target complex;
- (b) contacting the sample medium with a support which binds to the first nucleic acid probe of the probe-target complex;
- (c) substantially separating the support and bound probe-target complex from the sample medium;
- (d) contacting the support and bound probe-target complex with a second medium;
- (e) releasing the probe-target complex into the second medium;
- (f) substantially separating the support from the second medium; and
- (g) amplifying the target polynucleotide.

~~28. A method for detecting a target polynucleotide contained in a sample medium comprising the steps of:~~

- (a) contacting the sample medium with reagent comprising a first nucleic acid probe which binds to the target to form a probe-target complex;
- (b) contacting the sample medium with a support which binds to the first nucleic acid probe of the probe-target complex;
- (c) substantially separating the support and bound probe-target complex from the sample medium;
- (d) contacting the support and bound probe-target complex with a second medium;
- (e) releasing the probe-target complex into the second medium;
- (f) substantially separating the support from the second medium;
- (g) amplifying the target polynucleotide; and
- (h) detecting the presence of the target polynucleotide.

~~29. The method of detecting a target polynucleotide of claim 28 wherein the target polynucleotide is amplified with a polymerase.~~

~~30. The method for detecting a target polynucleotide of claim 29 wherein the polymerase is a DNA polymerase, an RNA polymerase, a transcriptase, or Q β -replicase.~~

~~31. The method for detecting a target polynucleotide of claim 30 wherein the polymerase is a DNA polymerase.~~

~~32. The method for amplifying a target polynucleotide of claim 27 wherein the target polynucleotide is amplified with a polymerase.~~

~~33. The method for amplifying a target polynucleotide of claim 32 wherein the polymerase is a DNA polymerase.~~

~~34. A method for amplifying a target polynucleotide contained in a sample medium comprising the steps of:~~

- (a) contacting the sample medium with a support and a probe which binds to the target polynucleotide and the support;
- (b) substantially separating the support and bound probe and target polynucleotide from the sample medium;
- (c) contacting the support and bound probe and target polynucleotide with a second medium;
- (d) releasing the target polynucleotide into the second medium;
- (e) substantially separating the support and bound probe from the second medium; and
- (f) amplifying the target polynucleotide.

~~35. The method for amplifying a target polynucleotide of claim 34 wherein the target polynucleotide is amplified a polymerase.~~

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- ~~(b) releasing the target polynucleotide into the second medium;~~
- (c) substantially separating the support and bound probe from the second medium;
- 5 (f) amplifying the target polynucleotide; and
- (g) detecting the presence of the amplified target polynucleotide.

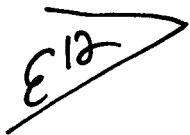
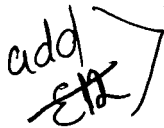
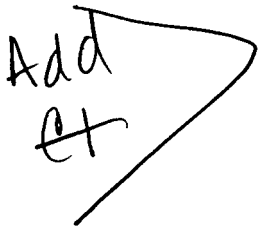
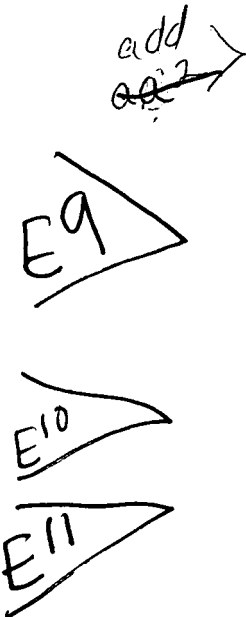
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~~39. The method for detecting a target polynucleotide of claim 38 wherein the target polynucleotide is amplified with a polymerase.~~

40. The method for detecting a target polynucleotide of claim 39 wherein the polymerase is a DNA polymerase.

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